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hp p920

D8912

19-inch Color Monitor
(18-inch Viewable Image)

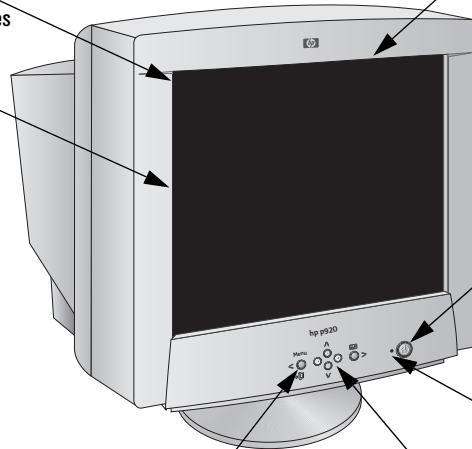
www.hp.com/go/monitors
www.hp.com/go/monitorsupport



0.24 mm Aperture grille
pitch for excellent
graphics

Full scan screen that gives
an edge-to-edge image

NF Diamondtron[®], anti-reflective
and anti-static screen coating



On/Off switch

Status indicator

Access to On-Screen Menu

Image adjustment controls to
operate on-screen display menus

hp p920 D8912 19-inch Color Monitor (18-inch Viewable Image)

User's Guide

Notice

The information contained in the documents accompanying this product is subject to change without notice.

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Important Safety Instructions

WARNING

For your safety always connect equipment to a grounded wall outlet. Always use a power cord with a properly grounded plug, such as the one provided with the equipment, or one in compliance with your national safety standards. This equipment can be disconnected from the power by removing the power cord from the power outlet. This means the equipment must be located close to an easily accessible power outlet.

To avoid electrical shock, do not open the monitor's cover. There are no user-serviceable parts inside. Only qualified service personnel should service these parts.

Make sure your PC is powered off before connecting or disconnecting a display peripheral.

Working in Comfort

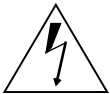
Thank you for selecting HP monitor equipment.

To optimize your comfort and productivity, it's important that you set up your work area correctly and use your HP equipment properly. With that in mind, we have developed some setup and use recommendations for you to follow based on established ergonomic principles.

You can consult the online version of Working in Comfort preloaded on the hard disk of HP computers, or visit HP's Working in Comfort web site at:

<http://www.hp.com/ergo/>

CAUTION



The monitor is quite heavy (the weight is shown in the technical specifications). We recommend you ask the assistance of a second person when lifting or moving it.



The lightning flash with arrowhead symbol, situated within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" which may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and servicing instructions in the literature accompanying the appliance.

What Your New Monitor Offers

Your HP monitor is an NF Diamondtron® 19-inch (18-inch viewable image), high resolution, multi-synchronous color monitor. Multi-synchronous means that the monitor supports a range of video modes. It is optimized for use with all Hewlett-Packard computers.

Your HP color monitor has the following features:

- A 19-inch NF Diamondtron screen with an 18-inch viewable image. 0.24mm aperture grill pitch for excellent graphics and an anti-glare coating to minimize reflection.
- Supports video modes up to 1600 x 1200 at 85 Hz refresh rates.
- Image adjustment using on-screen display menus. Includes color temperature adjustment and image manipulation controls to optimize the quality and position of the image.
- Monitor power management system (VESA¹ standard) controlled from suitably equipped HP computers to automatically reduce the power consumption of the monitor. As an ENERGY STAR² partner, HP has determined that this product meets the ENERGY STAR guidelines for energy efficiency.
- Monitor Plug and Play capability (VESA DDC1/2B standard) that enables the monitor to identify itself to suitably equipped HP computers.
- Compliance with ISO 9241-3/-7/-8 ergonomic standards.
- Complies with MPRII guidelines for upper limits of electrostatic and magnetic field emissions, from the Swedish National Board for Measurement and Testing.
- Your HP monitor complies with TCO99 requirements. (Refer to "TCO99 Ecology Energy Emissions Ergonomics" on page 36).

1. VESA is the Video Electronics Standards Association

2. ENERGY STAR is a trademark of United States Environmental Protection Agency (EPA)

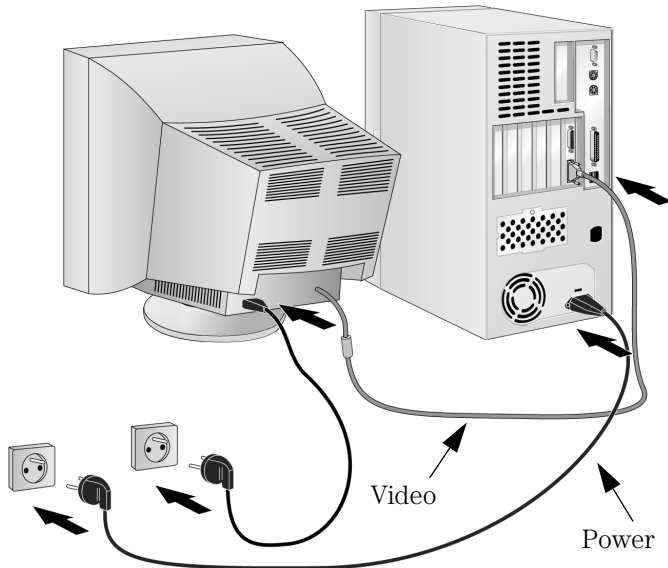
Setting Up Your Monitor

Where to Place the Monitor

Place your monitor on a flat sturdy surface. Ensure the operating site is free from excessive heat, moisture, and sources of electromagnetic fields. Sources of electromagnetic fields include transformers, motors and other monitors.

Connecting the Cables

- 1 Before you connect any cables, refer to the safety instructions at the beginning of this manual. Make sure your computer and monitor are switched off.
- 2 Connect the video cable (it has a 15-pin plug) to the video outlet on your computer. Tighten the thumbscrews on the plug.
- 3 Connect the power cord to the monitor.
- 4 Plug the power cord into the power outlet.



NOTE

The location of your computer's video cable connector may be different to the one shown. Refer to the manual that came with your computer, if necessary.

How To Install The Drivers

Windows 95, Windows 98 or Windows 2000 Operating Systems:

In order to take advantage of the Plug & Play functionality of your Windows 95/98/2000 operating systems, HP Monitors come with a driver that lets you optimize your monitor.

To install this driver follow these steps:

- | | |
|---------------------------------------|---|
| Windows 95 and
Windows 98
Users | <ol style="list-style-type: none"> 1 Click on the Start ⇒ Settings ⇒ Control Panel 2 Double Click on Display. 3 Click on Settings tab. 4 Click on Advanced... and select the Monitor tab. 5 Click on Change... in order to select the model of the HP Monitor you are using. 6 Click on Have Disk... 7 Click on Browse... to find the HPMON_XX . INF file on your CD-ROM under the \Drivers directory and click on OK. 8 Select your monitor type in the Models box and click on OK to install the selected monitor. |
| Windows 2000
Users only | <ol style="list-style-type: none"> 1 Click on the Start ⇒ Settings ⇒ Control Panel 2 Double Click on Display. 3 Click on Settings tab. 4 Click on Advanced... and select the Monitor tab. 5 Click on Properties. 6 Click on Driver tab. 7 Click on Update Driver... and click on Next. 8 Select the Recommended option and click on Next. 9 Check the Specify a location box. 10 Find and open the HPMON_XX . INF file on your CD-ROM under the \Drivers directory and click on OK. 11 Click on Next to install the selected monitor. |

Your operating system and your HP Monitor are now set up to work in optimum conditions.

How To Install The Drivers

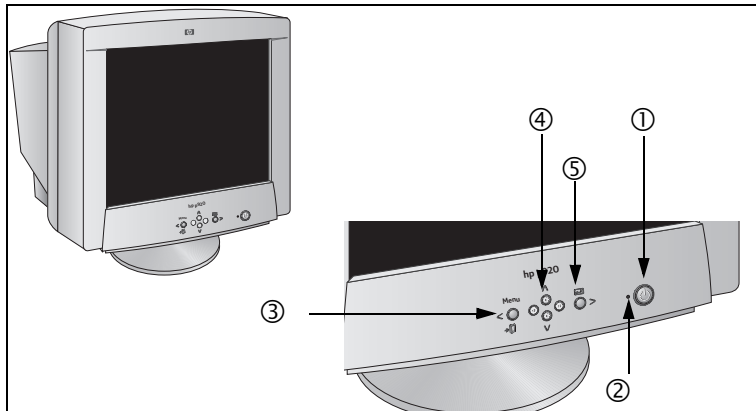
If the installation procedure of your monitor driver on your Windows 95/98/2000 version is different or you need more detailed installation information, please refer to your Windows 95/98/2000 user's manual.

HP regularly updates the HPMON_XX.INF driver each time a new monitor is released. To download the latest up-to-date version, visit our HP Monitors Support web site at:

<http://www.hp.com/go/monitorsupport>

Using Your Monitor

The illustration below shows the location of the function keys which operate the monitor.



Power Button

- ① Use this button to turn the monitor on or off.

Power Indicator

- ② The power indicator is green when the monitor operates normally. If the monitor is in DPM (Energy Saving) mode (standby / suspend / power off) the indicator color changes to amber.

Menu Button

- ③ Use the Menu button to enter or exit the on-screen display menu. This button also allows you to go back to the previous menu.

Control Buttons

- ④ Use these buttons to select or adjust screen parameters from the on-screen display menu. You can also use these buttons to directly adjust the contrast and brightness.

Enter Button

- ⑤ Use this button to enter a selection in the on-screen display menu.

NOTE

After 3 seconds all menus will automatically save your settings.

If the power management function of your computer is working properly, you do not need to switch the monitor off or on. This occurs automatically.

Adjusting Your Monitor

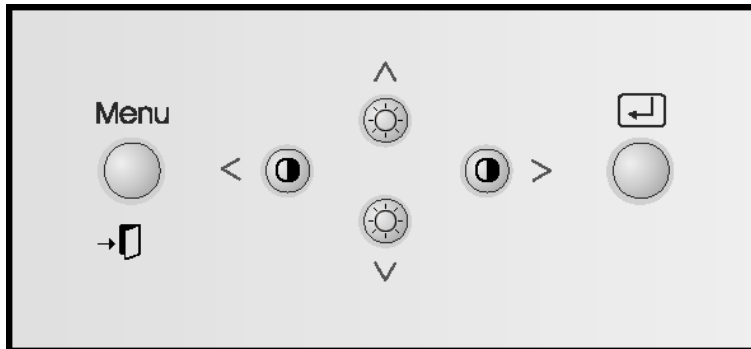
User Controls

Your monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the front of the monitor. These buttons operate the on-screen menu, which shows you the monitor's settings and allows you to change those settings.



Menu - Control and Adjustment

Making adjustments to the image size, position and operating parameters of the monitor are quick and easy with the Menu facility. A quick example is given below to familiarize you with the use of the controls.





NOTE

Allow the monitor to stabilize for at least 30 minutes before making image adjustment.

To make adjustments follow these steps:


- 1 Press the **Menu** button. The menu appears.

Adjusting Your Monitor

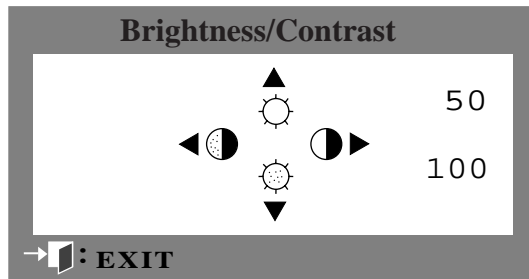
- 2 To access a sub-menu (**Position/Size/Geometry/Color/Screen** etc), press ◀ / ▶ buttons to highlight the required icon.
- 3 To access a function press ▲ / ▼ buttons. When the icon you require is highlighted press the  **Enter** button.
- 4 Use the ◀ / ▶ or ▲ / ▼ buttons to adjust the item to the desired level.
- 5 Exit the menu or go to the previous menu by pressing the  **Menu** button.

Automatic Save

Whenever you open the on-screen menu and allow an adjustment window to remain active for 3 seconds without pressing another button, the monitor automatically saves any adjustments you have made. These changes are saved into a user area in the monitor. User areas are reserved according to the signal frequency from your computer. The monitor can save adjustments for up to 10 user modes. It has 10 factory presets, one for each signal frequency as listed in Display Modes on page 24.

If you have made no adjustments, the on-screen menu disappears and the monitor does not save anything. To exit without saving the changes you have made, press the  **Menu** button before the 3 seconds have elapsed.

Direct Access to Brightness and Contrast



This feature allows you to adjust the brightness and contrast. Once you have adjusted the settings, press the **→ Menu** button twice to close the **Brightness/Contrast** OSD.

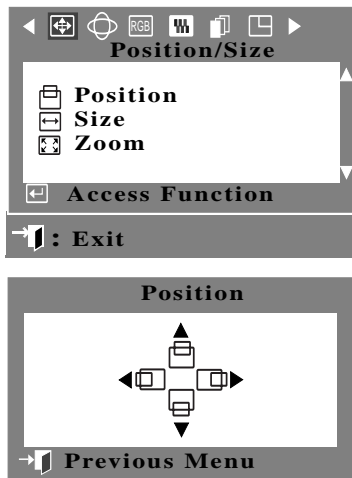
- 1 Press the **▲ ▼ ◀ ▶** buttons to display the **Brightness/Contrast** OSD.
- 2 Press the **▲ ▼** buttons to adjust the brightness, or the **▶ ◀** buttons to adjust the contrast.

Menu Features

The **Menu** features allow you to adjust the quality of the picture using your monitor's On-Screen menu facility.

When you have finished making adjustments to a setting, press the **Menu** button to return to the **Main Menu**, then press **Menu** again to turn off the On-Screen menu.

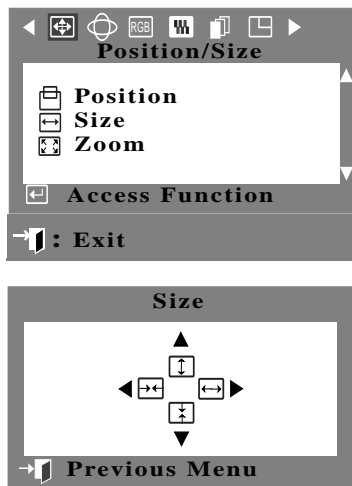
POSITION



The **Position** parameters allow you to change the position of the picture.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Position / Size** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Position** then press the □ button to display the **Position** adjustment OSD.
- 4 Use the ▲ and ▼ buttons for vertical adjustment, or the ◀ and ▶ buttons for horizontal adjustment.

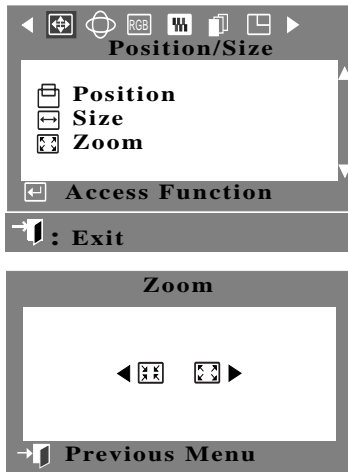
SIZE



The **Size** parameters allow you to change the size of the picture.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Position / Size** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Size**, then press the □ button to display the **Size** adjustment OSD.
- 4 Use the ▲ and ▼ buttons for vertical size adjustment, or the ◀ and ▶ buttons for horizontal size adjustment.

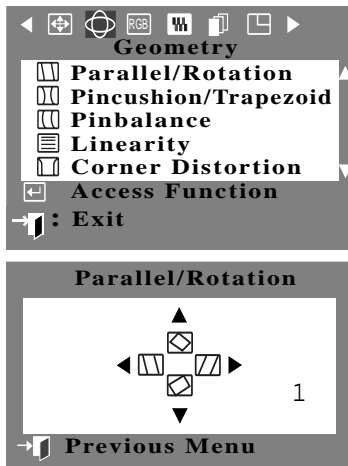
ZOOM



The **Zoom** parameters allow you to zoom in or out of the picture.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display **Position / Size** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Zoom**, then press the □ button to display the **Zoom** adjustment OSD.
- 4 Use the ◀ or ▶ buttons to enlarge or reduce the monitor's viewing area.

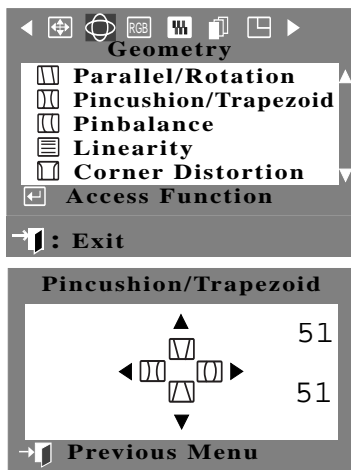
PARALLEL/ROTATION




The **Parallel/Rotation** parameter allows you to adjust the parallelogram setting when the picture is leaning left or right, and the rotation setting when the picture is tilted left or right.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Geometry** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Parallel/Rotation**, then press the □ button to display the **Parallel/Rotation** adjustment OSD.
- 1 Use the ◀ or ▶ button to adjust the parallel setting or use the ▲ or ▼ buttons for rotation setting adjustments.

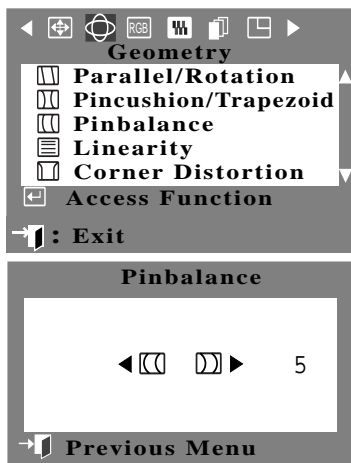
PINCUSHION/TRAPEZOID




The **Pincushion/Trapezoid** parameters allow you to adjust the pincushion settings when the sides of the picture are bowed in or bowed out, and the trapezoid settings when the top or bottom of the picture is too large or small.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Geometry** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Pincushion/Trapezoid**, then press the  button to display the **Pincushion/Trapezoid** adjustment OSD.
- 4 Use the ◀ or ▶ buttons to expand and contract the monitor's viewing area or use the ▲ or ▼ buttons for trapezoid setting adjustments.

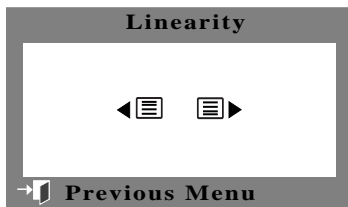
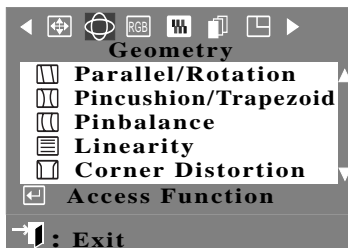
PINBALANCE



The **Pinbalance** parameters allow you to adjust the pinbalance setting when the sides of the picture are bowed towards the left or right.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Geometry** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Pinbalance**, then press the  button to display the **Pinbalance** adjustment OSD.
- 4 Use the ◀ or ▶ buttons for pinbalance setting adjustments.

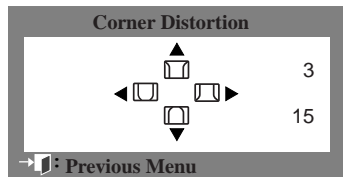
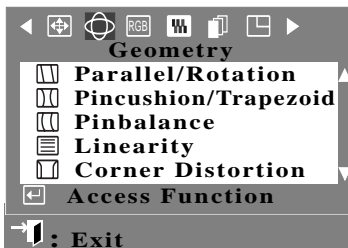
LINEARITY



The **Linearity** parameters allow you to adjust the linearity setting when the picture is compressed at the top or bottom.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Geometry** OSD.
- 3 Press the ▲ or ▼ button to highlight **Linearity** then press the ◻ button to display the **Linearity** adjustment OSD.
- 2 Use the ◀ or ▶ button for vertical linearity adjustments.

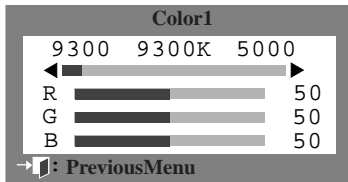
CORNER DISTORTION



The **Corner Distortion** parameters allow you to adjust corner distortion when the border displayed on the screen is not straight.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Geometry** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Corner Distortion**, then press the ◻ button to display the **Corner Distortion** adjustment OSD.
- 4 Use the ▲ or ▼ buttons for upper border/line adjustment. Use the ◀ or ▶ buttons for lower border/line adjustment.

COLOR



The color temperature is a measure of the “warmth” of the image colors. The available range is from 5000 to 9300K.

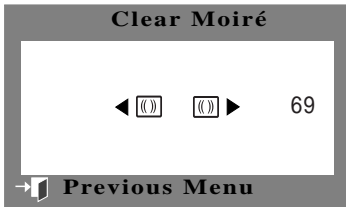
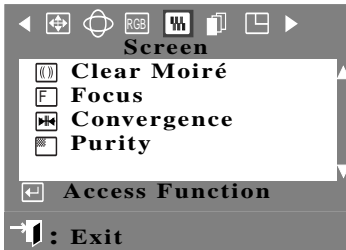
This parameter allows you to adjust individual R, G, B color control.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Color** OSD.
- 3 Use the ▲ or ▼ button to highlight either **Color 1**, **Color 2**, or **Color 3**, then press the button to open the **Color 1**, **Color 2**, or **Color 3** adjustment OSD.
- 4 The current color temperature is displayed between 9300 and 5000, in the center at the top of the OSD. Use the ◀ or ▶ buttons to adjust the color temperature.
- 5 Use the ◀ or ▶ to adjust to the desired color temperature. Use the ▲ or ▼ buttons to select **R**(ed), **G**(reen), or **B**(lue) then use the ◀ and ▶ for color adjustment.

NOTE

Recall does not reset the color settings.

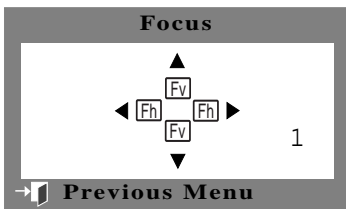
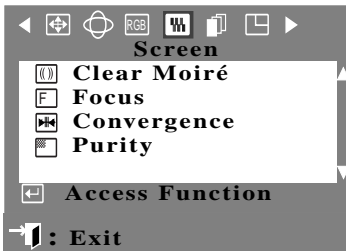
CLEAR MOIRÉ



A “moiré” pattern can appear on your OSD, looking like a series of concentric circles or arcs. The **Clear Moiré** parameter allows you to remove the interference.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ button to display the **Screen** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Clear Moiré**, then press the □ button to display the **Clear Moiré** adjustment OSD.
- 4 Use the ◀ or ▶ buttons to adjust horizontal moiré.

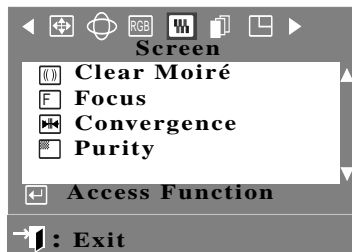
FOCUS



The **Focus** parameter allows you to sharpen the picture.

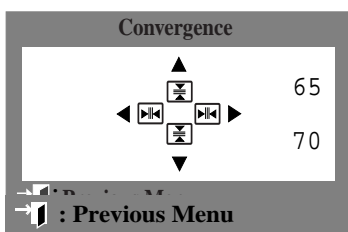
- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Screen** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Focus**, then press the □ button to display the **Focus** adjustment OSD.
- 4 Use the ◀ or ▶ buttons to adjust the left and right areas of the screen. Use the ▲ or ▼ button to adjust the top and bottom areas of the screen.

CONVERGENCE

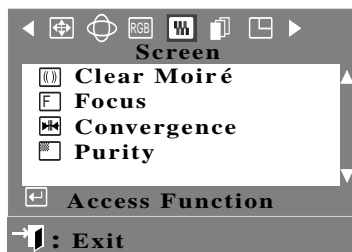


Convergence refers to the alignment of the red, green and blue color signals that affect picture clarity. The **Convergence** parameter allows you to control the color signals.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Screen** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Convergence**, then press the ◻ button to display the **Convergence** adjustment OSD.
- 4 Use the ◀ or ▶ buttons for horizontal convergence adjustments. Use the ▲ or ▼ buttons for vertical convergence adjustments.

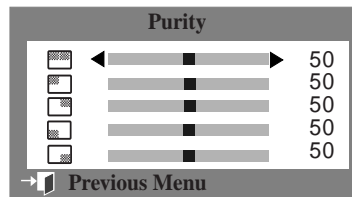


PURITY



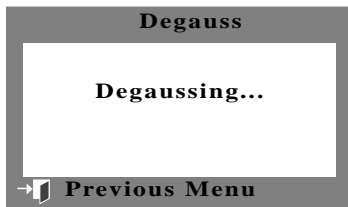
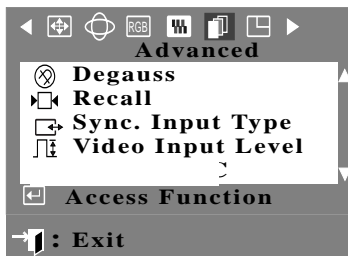
The **Purity** parameter allows you to adjust the color purity of the picture.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Screen** OSD.
- 3 Press the ▲ or ▼ buttons to select **Purity**, then press the ◻ button to display the **Purity** adjustment OSD.
- 6 Use the ▲ or ▼ buttons to select the adjustment area, and the ◀ button or ▶ buttons to perform the adjustment.

**NOTE**

If you are attempting to adjust purity in the center (top/bottom), you should adjust using **Menu** first and then adjust each corner accordingly.

DEGAUSS



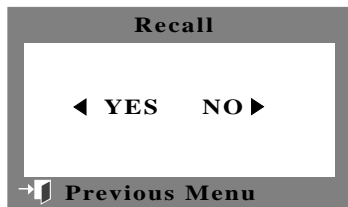
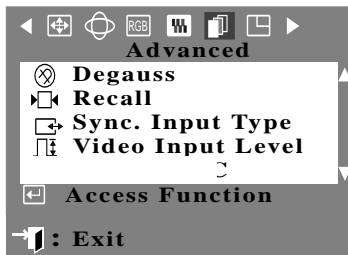
The **Degauss** parameter allows you to remove color impurities caused by magnetic fields. Do not use the **Degauss** feature more than once within a 30-minute period.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ button to display the **Advanced** OSD.
- 3 Press the ▲ or ▼ button to highlight **Degauss**, then press the ◻ button to execute the **Degauss** function.
- 4 The degaussing OSD will appear. After a few seconds the **Degauss** main menu will return.

NOTE

During degauss the monitor may buzz momentarily, the image colors may change and the image will become distorted for a few seconds. These effects are normal

RECALL



The **Recall** parameter allows you to reset the following monitor settings to their original levels: **Position**, **Size**, **Pincushion**, **Trapezoid**, **Parallelogram**, **Pinbalance**, **Rotation**, **Clear Moiré**, **Convergence**, and **Purity**.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Advanced** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Recall**, then press the ◻ button to display the **Recall** selection OSD.
- 4 Use the ◀ button to select **YES**. If you do not want to reset the monitor, use the ▶ button to select **NO**.

NOTE

If you have selected "Yes" all settings listed above will be reset. All other settings will remain the same

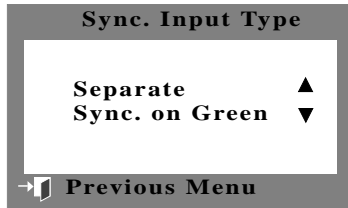
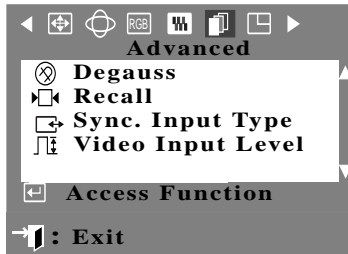
CAUTION

This operation resets all of the data in the user memory area for the current timing signal.

CAUTION

This operation resets all of the data in the user memory area. If this occurs, you must remake your user adjustments.

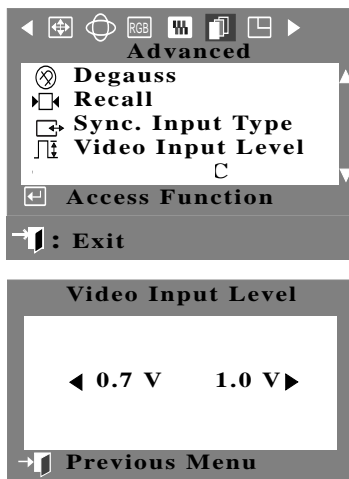
SYNC. INPUT TYPE



The **Sync. Input Type** parameter allows you to set your monitor to the correct type of synchronization. Select **Separate** if the computer is sending a separate synchronization signal. Select **Sync. on Green** if the computer expects the monitor to synchronize with the green signal it sends. Refer to your computer or video card user's manual to determine the correct setting.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Advanced** OSD.
- 3 Press the ▲ or ▼ buttons to select **Sync. Input Type**, then press the ◻ button to display the **Sync Input Type** selection OSD.
- 4 Use the ▲ or ▼ buttons to select **Separate** or **Sync. on Green**.

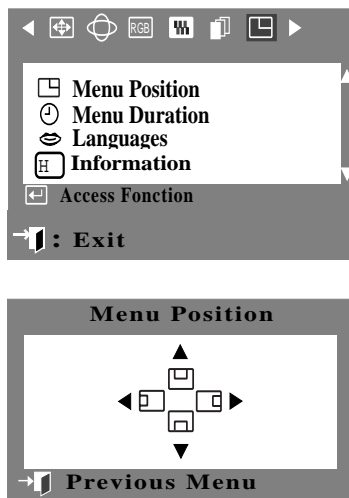
VIDEO INPUT LEVEL



Some video cards use video signals higher than 1.0 V which causes the display to be very bright. The **Video Input Level** parameter allows you to select the level that is best suited to your computer's video card.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Advanced** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Video Input Level**, then press the ◻ button to display the **Video Input Level** selection OSD.
- 4 Use the ◀ or ▶ buttons to select **0.7 V** or **1.0 V**.

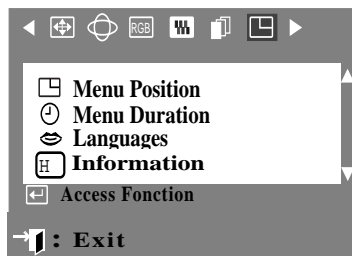
MENU POSITION



The **Menu Position** parameter allows you to change the place where the OSD menu appears on your monitor.

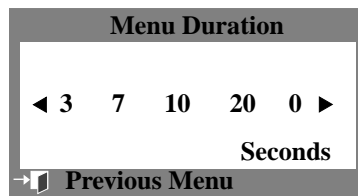
- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display the **Menu** OSD.
- 3 Press the ▲ or ▼ button to select **Menu Position**, then press the ◻ button to display the **Menu Position** adjustment OSD.
- 7 Use the ▲, ▼, ◀ or ▶ buttons to place the menu where you prefer it.

MENU DURATION

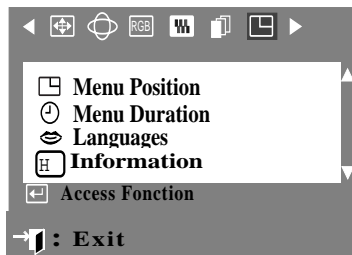


The menu will automatically turn off if no adjustments are made for a certain time period. The **Menu Duration** parameter allows you to set the length of time the menu will wait before it turns off.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display **Menu** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Menu Duration**, then press the **Menu** button to display the Menu Duration selection OSD.
- 8 Use the ◀ or ▶ buttons to select **3, 7, 10, 20, or 50** seconds. The default value is 10 seconds.

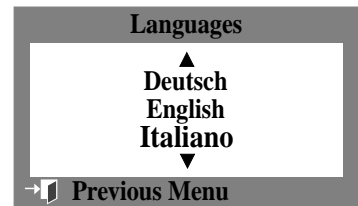


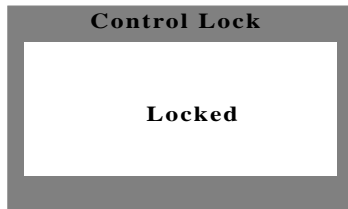
LANGUAGES




The **Languages** parameter allows you to change the language used in the menu. The language chosen only affects the language used in OSDs. It has no effect on any software running on the computer.

- 1 Press the **Menu** button.
- 2 Press the ◀ or ▶ buttons to display **Menu** OSD.
- 3 Press the ▲ or ▼ buttons to highlight **Languages**, then press the ◻ button to display the **Language** selection OSD.
- 4 Use the ▲ or ▼ buttons to select the language you would like to use. You can choose one of seven languages (English, French, Portuguese, Italian, Spanish, Chinese, or German).



OSD LOCK/UNLOCK

The **OSD Lock/Unlock** allows you to protect adjustment data by locking controls. You can unlock the OSD controls at any time by using the same procedure.

- 1 Press and hold the **Enter** () button for **10** seconds or more to Lock or to Unlock.

Minimizing Eye Strain

To avoid screen flicker and minimize eye strain, use the highest supported image refresh rate for the chosen resolution. It is recommended that you use a refresh rate of 85 Hz. The image refresh rate is the number of times per second that the image is refreshed.

Minimizing Energy Consumption

If your computer supports VESA monitor power management (available on many HP computers), you can minimize the power consumed by the monitor. There are two power saving modes:

- Suspend mode¹ (uses less than 15W). In this mode, the monitor's front panel indicator light is amber.
- Active off mode² (uses less than 3W). In this mode, the monitor's front panel indicator light is amber.

To set these power saving modes, refer to the manual that came with your computer. If your screen is not displaying an image, check the front panel indicator light first as your monitor may be in a power saving mode.

Supported Video Modes

Your monitor comes with the standard modes shown in the table below. It also supports intermediate video modes. With the intermediate modes, the displayed image may need to be optimized using the buttons on the front panel. All modes are non-interlaced. Your monitor is GTF* compatible.

FACTORY PRESET MODES:

Resolution	Refresh Rate/Hz
640 x 400	70
640 x 480	60, 85
800 x 600	85
1024 x 768	75, 85
1280 x 1024 GTF*	75, 85
1600 x 1200	75, 85

The recommended mode for your HP Monitor is 1280 x 1024, at 85 Hz.

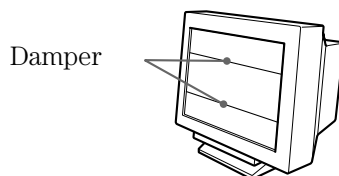
1. Suspend mode is activated when vertical sync is cut by the video controller.
2. Active off mode is activated when both vertical and horizontal sync are cut by the video controller.
3. GTF - General Timing Formula.

Troubleshooting

Refer to this section, before contacting technical support.

If two thin lines appear on your screen (damper wires)

The lines you are experiencing on your screen are normal for all Aperture Grille monitors and are not a malfunction. These are shadows from the damper wires used to stabilize the aperture grille and are most noticeable when the screen's background is light (usually white). The aperture grille is the essential element that makes an NF Diamondtron picture tube unique by allowing more light to reach the screen, resulting in a brighter, more detailed picture.



Moiré

Moiré is a type of natural interference which produces soft or wavy lines on your screen. It may appear due to interference between the regulated pattern of the picture from the input signal and the phosphor pitch pattern of the CRT. Refer to "Clear Moiré" on page 17 for more detail.

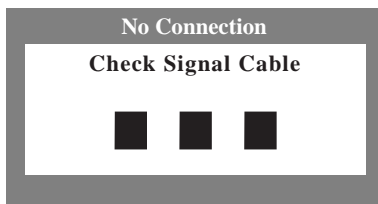


Self-Test Feature Check (STFC)

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark and the power indicator is blinking, run the monitor self-test by performing the following steps:

- 1 Turn off both your computer and the monitor.
- 2 Unplug the video cable from the back of the computer.
- 3 Turn on the monitor.

If the monitor is functioning properly, you will see a white box with a red border and inside as shown in the following illustration:



The three boxes inside the border are red, green and blue. Failure of any of the boxes to appear indicates a problem with your monitor. This box also appears during normal operation if the video cable becomes disconnected or damaged.

- 4 Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; your monitor is functioning properly.

Warm-up Time

All monitors need time to become thermally stable the first time you turn them on each day. Therefore, to achieve more accurate adjustments for parameters, allow the monitor to warm (be on) for at least 30 minutes before making any screen adjustments.

Before calling Hewlett-Packard check the following items:

No picture and LED is off.

- Check if monitor is switched ON.
- Check if power cord is properly connected.
- Check if electrical outlet is connected.
- Test if monitor works on another PC previously set to monitor's supported resolution.

No picture and LED is on.

- Check if monitor is not in power saving mode.
- Adjust contrast and brightness through Menu using the control buttons.
- Check if PC is switched on.
- Check if video cable has no bent pins.
- Test if monitor works on another PC previously set to monitor's supported resolution.

Colors are not pure.

- Degauss your monitor.
- Shut down your monitor and switch it on after 30 minutes.

Picture is not centered.

- Adjust picture through Menu using the control buttons.

Picture is fuzzy.

- Use the Recall function.
- Reduce contrast through Menu using the control buttons.
- Adjust moire reduction to zero.

Technical Specifications

PICTURE TUBE	Size	19-inch, viewable image size 18-inch
	Aperture Grille Pitch	0, 24 mm
	Face Plate	anti-reflection and anti-static coating
INTERFACE	Video Cable with 15-pin mini D-SUB Connector	
SCANNING FREQUENCY	Horizontal	30 to 107 kHz
	Vertical	160 Hz
MAX. RESOLUTION	1600 x 1200 (85 Hz)	
RECOMMENDED RESOLUTION:	1280 x 1024 (85 Hz)	
WARM-UP TIME	30 minutes to reach optimum performance level	
Max PIXEL CLOCK	< 240 MHz	
IMAGE SIZE	Standard Size: 352 (W) × 264 (H)mm Maximum Size: 366 (W) × 274 (H)mm	
POWER MANAGEMENT	On 150W (max)	Constant green LED
	Standby mode 70W (max)	Amber blinking LED
	Suspend mode 15W (max)	Amber blinking LED
	Active Off 3W (max)	Constant Amber LED
	Power Off 0W	LED is Off
POWER SOURCE	AC 100-240 V, 50/60 Hz (max current) 1.7A	
OPERATING ENVIRONMENT	Temperature	0°C to 40 °C
	Humidity	10% RH through 80% RH (without condensation)
STORAGE ENVIRONMENT	Temperature	-20°C to 60 °C
	Humidity	8% RH through 85% RH (without condensation)
CABINET DIMENSIONS	487 (H) 469 (W) 475 (D) mm	
WEIGHT	25.7 kg	
TILT/SWIVEL STAND	Tilt Angle	- 5° to 10°
	Swivel Angle	- 45° to 45°

Care and Cleaning

Do not place anything on top of the monitor. Doing so may block the monitor vents and cause damage to the monitor due to overheating. Do not let liquid get on or into the monitor. To maximize screen life and prevent damage to the picture tube (such as burned phosphor due to leaving the same image on the screen for a long time), it is recommended that you:

- Use the monitor power management system (on HP computers) or a screen saver program.
- Avoid setting contrast and brightness to their maximum levels for prolonged periods.
- If you do not have a power management system or a screen saver program, switch the monitor off or reduce the brightness and contrast to minimum levels when the monitor is not in use.

Your monitor has an anti-glare, anti-static screen coating. To prevent damage to the monitor screen's coating, use a regular household glass cleaner when cleaning the screen. To clean the screen:

- 1 Switch the monitor off and remove the power plug (pull the plug, not the cable).
- 2 Wet a soft cotton cloth with the cleaning solution and gently wipe the screen. Do not spray cleaner onto the screen because the cleaner may drip inside the monitor.
- 3 Dry with a clean, soft cotton cloth. Do not use cleaning solutions containing fluoride, acids, or alkalis.

Environmental Information

HP has a strong commitment toward the environment. Your HP monitor has been designed to respect the environment as much as possible.

HP can also take back your old monitor for recycling when it reaches the end of its useful life. In fact, HP has a product take-back program in several countries. The collected equipment is sent to one of HP's recycling facilities in Europe or the USA. As many parts as possible are reused. The remainder is recycled. Special care is taken for batteries and other potentially toxic substances, which are reduced to non-harmful components through a special chemical process. If you require more details about HP's product take-back program, contact your dealer or your nearest HP Sales Office.

Hardware Warranty

PART I - HP General Hardware Warranty

GENERAL

This HP Monitor Hardware Warranty Statement gives you, the customer, express warranty rights from HP, the manufacturer.

FOR CONSUMER TRANSACTIONS IN AUSTRALIA AND NEW ZEALAND: THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

THE LAWS OF YOUR COUNTRY MAY PROVIDE FOR DIFFERENT WARRANTY RIGHTS. IF SO, YOUR AUTHORIZED HP DEALER OR HP SALES AND SERVICE OFFICE CAN PROVIDE YOU WITH DETAILS.

WARRANTY REPAIR OR REPLACEMENT.

Warranty Period ¹	Service provided	
3 years - unless original end-user customer has otherwise agreed to a shorter period of warranty at the time of purchase.	Worldwide (Except US, Canada and Japan): On-site service for first year, and return to an HP or repair authorized service center for the following two years.	A
	US and Canada: Return to HP or a repair authorized service center for three years.	B
1 year:	Worldwide except Japan. On-site service.	C
1 year.	Japan: Return to HP or a repair authorized service center for one year.	D

1. This monitor hardware product is covered by either a one-year or a three-year warranty. Refer to the HP Quick Set-up Guide for more information.

Hewlett-Packard (HP) warrants this monitor hardware product, or accessory against defects in materials and workmanship for the applicable warranty period stated above, commencing from the date of delivery of the product to the end-user customer.

HP does not warrant that the HP hardware will operate uninterrupted or error free.

If, during the product warranty period, HP is unable, within a reasonable time, to repair or replace your product to the condition as warranted, you will be entitled to a refund (in the amount of the product purchase price) upon prompt return of the product to your authorized HP dealer or other HP designate. Unless otherwise stated or agreed upon in writing with HP, all hardware components must be returned for refund with the entire system process unit. HP software is covered by the HP Software Product Limited Warranty located in your HP product manual. Unless otherwise stated, and to the extent permitted by local law, hardware products may contain remanufactured parts (equivalent to new in performance) or parts which

may have been subject to prior incidental use. HP may repair or replace hardware products (i) with products which are equivalent in performance to the products being repaired or replaced but which may have been subject to prior use, or (ii) with products which may contain remanufactured parts equivalent to new in performance or parts which may have been subject to prior incidental use.

PROOF OF PURCHASE AND WARRANTY PERIOD

In order to receive service or support for your hardware product for the warranty period, proof of the original purchase date of the product may be required in order to establish the delivery date of your product. If the delivery date is not available, either the purchase date or the manufacturer's date (located on the product) becomes the beginning of the warranty period.

LIMITATION OF WARRANTY

Warranty does not apply to defects resulting from: (a) improper or inadequate maintenance or calibration; (b) software, interfacing, parts or supplies not supplied by HP; (c) unauthorized repair, maintenance, modification or misuse; (d) operation outside of the published operating specifications for the product; (e) improper site preparation or maintenance; or (f) such other exclusions as may be expressly set forth in this Warranty Statement.

HP MAKES NO OTHER EXPRESS WARRANTY, WHETHER WRITTEN OR ORAL, WITH RESPECT TO THIS PRODUCT.

TO THE EXTENT ALLOWED BY APPLICABLE LOCAL LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE.

LIMITATION OF LIABILITY AND REMEDIES

TO THE EXTENT ALLOWED BY APPLICABLE LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. IN NO EVENT SHALL HP BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGE, WHETHER BASED ON WARRANTY CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

The foregoing limitation of liability shall not apply in the event that any HP product sold hereunder is determined by a court of competent jurisdiction to be defective and to have directly caused bodily injury, death, or property damage. To the extent allowed by applicable local law, HP's liability for property damage does not exceed the greater of \$50,000 or the purchase price of the specific product that caused such damage.

PART II - Year 2000 Warranty

Subject to all of the terms and limitations of the HP Limited Warranty Statement provided with this HP Product, HP warrants that this HP Product will be able to accurately process date data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000, including leap year calculations, when used in accordance with the Product

Hardware Warranty

documentation provided by HP (including any instructions for installing patches or upgrades), provided that all other products (e.g. hardware, software, firmware) used in combination with such HP Product(s) properly exchange date data with it. The duration of the Year 2000 warranty extends through January 31, 2001.

Regulatory Information

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name: HEWLETT-PACKARD France
Manufacturer's Address: 5, Avenue Raymond Chanas - EYBENS
 38053 GRENOBLE CEDEX 09 -FRANCE

Declares, that the products:

Product Name: hp p920 19-inch Color Monitor
Model Number: D8912*

conform(s) to the following Product Specifications:

SAFETY

-International: IEC 60950:1991 + A1 + A2 + A3 +A4 / GB4943-1995
 -Europe: EN 60950:1992 + A1 + A2 +A3 +A4

ELECTRO MAGNETIC COMPATIBILITY

-CISPR 22:1993+A1+A2 / EN 55022:1994 +A1+A2 Class B 1)
 -EN 50082-1:1992
 IEC 801-2:1992 / prEN 55024-2:1992 - 4kV CD, 8 kV AD
 IEC 801-3:1984 - 3V/m
 IEC 801-4:1988 / prEN 55024-4:1992 - 1 kV Power Lines
 - IEC 61000-3-2: 1995 / EN 61000-3-2: 1995
 - IEC 61000-3-3:1994 / EN 61000-3-3:1995
 - GB9254-1998
 - FCC Title 47 CFR, Part 15 class B²⁾
 - ICES-003, Issue 2
 - VCCI-B
 - AS/NZ 3548:1995

Supplementary information: The product herewith complies with the requirements of the following Directives and carries the CE mark accordingly:

the EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC both amended by the Directive 93/68/EEC.

¹⁾ The product was tested in a typical configuration with Hewlett-Packard Personal Computer systems.

²⁾ This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Grenoble, October 2000


Jean-Charles MIARD
Quality Manager

For Compliance Information ONLY, contact:

USA contact: Hewlett-Packard Company, Corporate Product Regulations Manager, 3000 Hanover Street, Palo Alto, CA 94304. (Phone (650) 857-1501).

Notice for the USA: FCC Class B Statement

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT WARNING:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and the receiver.
- Connect the equipment to an outlet on a different circuit to the one the receiver is connected to.
- Consult your dealer or an experienced radio/TV technician for help.

Hewlett-Packard's FCC Compliance Tests were conducted using HP-supported peripheral devices and HP shielded cables, such as those you receive with your system. Changes or modifications not expressly approved by Hewlett-Packard could void the user's authority to operate the equipment.

Notice for Canada

This Class "B" digital apparatus complies with all requirements of the Canadian Interference-Causing Equipment Regulations (ICES.003).

Cet appareil numérique de la Classe B est conforme à toutes les exigences du règlement sur le matériel brouilleur du Canada (NMB - 003).

X-Ray Radiation Notice

When operating, this product emits x-rays; however, it is well shielded and meets the safety and health requirements of various countries, such as the Radiation Act of Germany and the Radiation Control for Health and Safety Act of the United States. Radiation emitted by this product is less than 0.1 mR/hr (1uSv/hr) at a distance of 10 centimeters from the surface of the cathode ray tube. The x-ray radiation primarily depends on the characteristics of the cathode ray tube and its associated low voltage and high voltage circuitry. Internal controls have been adjusted to ensure safe operation. Only qualified personnel should perform any internal adjustments as specified in the service manual for this product. Replace the cathode ray tube with an identical CRT only.

Safety Warning for USA

If the power cord is not supplied with your monitor, select the proper power cord according to your national electric specifications.

USA: use a UL listed SVT detachable power cord.

Notice for Korea

사용자 안내문 (B급기기)
이 기기는 비업무용으로 전자파장애 감정을 받은
기기로서, 주거지역에서는 물론 모든 지역에서
사용할 수 있습니다.

Notice for Germany

Hinweis für Deutschland: Geräuschemission
Lärmangabe nach Maschinenlärmmverordnung - 3 GSGV
(Deutschland)
LpA < 70db am Arbeitsplatz normaler Betrieb nach EN27779:
11.92

Notice for Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づきクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取り扱い説明書に従って正しい取り扱いをして下さい。



TCO 99

Congratulations! You have just purchased a TCO'99 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, most of these potentially damaging substances sooner or later enter nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy. Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

What does labelling involve?

This product meets the requirements for the TCO'99 scheme which provides for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

Approval requirements cover a wide range of issues: environment, ergonomics, usability, emission of electric and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental policy which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

Below you will find a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

TCO Development

SE-114 94 Stockholm, Sweden

Fax: +46 8 782 92 07

Email (Internet): development@tco.se

Current information regarding TCO'99 approved and labelled products may also be obtained via the Internet, using the address: <http://www.tco-info.com/>

Environmental requirements

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

Cadmium²

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

Mercury²

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses. The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit.

CFCs (freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product. CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

Lead²

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning. The relevant TCO'99 requirement permits the inclusion of lead since no replacement has yet been developed.

1. Bio-accumulative is defined as substances which accumulate within living organisms
2. Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.

